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TEMPORAL TRENDS IN QUALITY OF CARE AMONG ICD RECIPIENTS: INSIGHTS FROM THE NCDR ICD REGISTRY

ACC Oral Contributions
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Background: The ICD Registry was established in 2006 to measure quality of care in patients undergoing ICD implantation. However, whether quality has improved since initiation of the Registry is unknown.

Methods: We analyzed changes over time (Cochrane-Armitage trend test) in three quality metrics - procedural complications, optimal medical therapy (OMT), and CRT-D - in Registry patients receiving a first-time ICD between 4/06 and 3/10. OMT was defined as prescription of both beta blocker and either ACEi or ARB in eligible patients (EF <35% without contra-indications). CRT-D eligibility was determined by QRS ≥120ms, EF <35%, and NYHA class III/IV. Confounders were adjusted for using multivariate hierarchical logistic regression.

Results: 367,153 patients received new ICD implants during the study period. Complications decreased over time (3.6% to 2.7%, P<0.001) (Table). Among eligible patients, rates of OMT and CRT-D increased over time (69.0% to 74.3% and 79.2% to 83.3% respectively, P<0.001). Based on eligible recipients in 2010, these improvements imply 3838 more patients receiving OMT, 923 more CRT-D among eligible, and 800 fewer complications in year four than year one. After adjustment for potential confounders, trends did not change significantly.

Conclusions: Since initiation of the ICD Registry, complications are decreasing, and rates of OMT and CRT-D among eligible patients are increasing. Determining factors contributing to these trends is an important avenue of further research.

Table. Patient characteristics and outcomes over time

Year	4/06-3/07 (N=93,414)	4/07-3/08 (N=92,046)	4/08-3/09 (N=92,074)	4/09-3/10 (N=88,989)	P (trend)
Major complication* (%)	2.3	2.3	2.1	2.0	<0.001
Minor complication† (%)	1.4	1.0	0.9	0.8	<0.001
CRT among eligible (%)	79.2	79.9	80.9	83.3	<0.001
OMT among eligible (%)	69.0	71.5	73.0	74.3	<0.001

*Cardiac arrest, cardiac perforation, valve injury, coronary venous dissection, hemothorax, pneumothorax, deep phlebitis, transient ischemic attack, stroke, myocardial infarction, pericardial tamponade, arteriovenous fistula, device-related infection, peripheral embolus, lead dislodgement
†Drug reaction, conduction block, hematoma, superficial phlebitis, peripheral nerve injury